

an uncomfortable bumpy drive to Fort William along a single-track road. At one stage we had to pull off the road to allow a funeral cortege to pass. It seemed an endless caravan of cars following the hearse, and we truly felt in the mood to join in the wake—in retrospect it was hilarious in a macabre sort of way. However we eventually reached the hospital, plaster-of-paris was applied, and the carnival was over bar the drive back to rainy England.

Acknowledgements

We are indebted to the combined opinions of Dr. J. D. Bradley, and Messrs. E. C. Pelham-Clinton and D. W. H. Bennell for identifying *E. crenana*; to Rev. D. J. L. Agassiz for many other identifications including that of *A. tineana*; and again to Dr. J. D. Bradley for confirmation of this and for details of the previous reports of this moth.

References

- Ford, L. T. 1949. *A Guide to the Smaller British Lepidoptera*, p. 64.
 Meyrick, E. 1927. *Revised Handbook of British Lepidoptera*, p. 536.
 Sheldon, W. G. 1923. The Second British Specimen of *Ancylis tineana* Hb. *Entomologist*, 56: 212-213.
 Whittle, F. G. 1920. Lepidoptera at Rannoch in 1919. *Entomologist*, 53: 11-13.

The Rise and Fall of the Pincushion

By RONALD S. WILKINSON, Ph.D., F.L.S., F.R.E.S.

The Library of Congress, Washington, D.C. 20540

Many items of entomological paraphernalia have enjoyed a temporary vogue before being relegated to oblivion, or at least the sole attention of those historians who are interested in the development of instrumentation as well as the more frequently studied aspects of the history of the biological sciences. Among the more curious of a number of utilitarian objects pressed into service by our naturalist ancestors when collecting insects was the humble household pincushion, an unlikely accoutrement which, curiously enough, enjoyed a vogue of well over several centuries. The story of the pincushion is quite naturally linked to the use of pins as devices for securing insects, both in the field and for final mounting in cabinets.

Sources for collecting methods prior to the mid-seventeenth century are unfortunately so vague that, quite frankly, we do not know when the now common entomological pinning technique was first used in preparing insects for collections. Of course the problem is compounded because only a few small insect collections survive from the seventeenth century, and at least none of those which I have examined are mounted on pins. However, we know that John Ray, one of the founders of modern botany and also one of the several most important figures in seventeenth-century English entomology, mounted his specimens on pins and kept them in store-boxes when accumulating the data for his *Historia Insectorum* (1710), published posthumously, and it would appear from contemporary manu-

script evidence that his friend and collaborator Samuel Dale adopted the same method. James Petiver, whose quite significant early entomological collections were made separately despite a fruitful exchange of information with Ray, mounted his specimens on pins, as did William Courten, also a contemporary (Wilkinson, 1966).

As for the pincushion, the first known mention of it is in one of Petiver's letters. He explained to a friend in 1696 that "When Occasion gives me leave & Fair weather presents I visitt the neighboring Feilds, Woods, Hills & Rivers thus accoutred [:] I take with me my Pincushion fully stuck with pins of severall sizes, a long Box for Insects with 2 or 3 Smaller for wt odd things may come in my way" (Petiver to Samuel Brown, undated [1696], Sloane MS. 3332, British Library ff. 112r.-113r.). The method of impaling many sorts of insects with pins upon capture and for permanent preservation became standardised, and our earliest evidence for this is near the end of the seventeenth century, although it may be noted that Petiver himself abandoned mounting specimens on pins, evidently due to the ravages of pests, and adopted the curious alternative of preserving his insects in mica or glass "sandwiches" sealed by glued paper or wood frames (Wilkinson, 1969a). Interestingly enough, Petiver's method defeated the ravages of time and many of his later specimens still remain in the collections of the British Museum (Natural History), while the pin-mounted collections of his contemporaries have been lost. It is probable that a number of early eighteenth-century naturalists continued to mount their insect collections in books in the same way as their herbaria, according to the earlier method exemplified by the volumes of Leonard Plukenet and Adam Buddle in the British Museum (Natural History), but the pincushion eventually won the field.

The standard English sources for entomological methods in the eighteenth century mentioned pins and the pincushion as necessary implements. Eleazar Albin, who retained the use of pins and store-boxes, was wise enough to develop ways of discouraging museum pests (Albin, 1720; Wilkinson, 1966). Benjamin Wilkes, in his sheet of collecting directions probably issued in 1742, advised the collector to be "provided with a Pin-cushion, well stock'd with different Sorts of Pins", for he recommended pinning Lepidoptera upon capture and transporting them in collecting boxes. In his *The English Moths and Butterflies* [1747-50], the same suggestion was made. The most influential English work on the Lepidoptera to be printed in the eighteenth century, Moses Harris' *The Aurelian* ([1758-] 66), advised that the entomologist "must take with him a Pincushion well supply'd with Pins of different Sizes, for the different Sizes of Insects, which may be taken", and that he should "be careful not to stick a small Fly or Moth, with two large a Pin, which will certainly destroy it, by putting the Joints of the Wings out of place, for such Insects as are disjointed, will never set well, and fall to pieces in a short Time". Curtis (1771) did little

but paraphrase earlier instructions by directing that the collector was to carry a "pin-cushion well stored with pins of various sizes".

Early nineteenth-century entomologists sallied forth with the pincushion to their collecting localities. The editions of Abel Ingpen's very popular manual warned that "the collector should never fail to take out a cushion filled with pins of various sizes" (Ingpen, 1826, 1839). There was some choice as to where the pincushion should be carried; Edward Newman, one of the arbiters of entomology in Victorian England, recommended when discussing collecting dress that "sewed into the stuff of the coat", inside the left breast, "should be a large pincushion, containing two or three different sizes of pins, so arranged, in three columns, that the hand might at once take of either kind without the assistance of the eye to direct it" (Newman, 1841). On the other hand, the naturalist William Swainson (1840) suggested in his own well-known work on taxidermy and zoological collecting that "a large assortment of pins" was requisite for insects, and that they might "be stuck upon a pincushion suspended round the neck or at the button-hole". William Kirby and William Spence, authors of perhaps the most widely respected general work on entomology in the first half of the nineteenth century, did not express a preference in the volume of their work which contained the section which they wrote on the collection of insects (1826), recommending only that the collector's pincushion be "well stored with lace-pins of various magnitudes and lengths".

The pins which our entomological forbears carried in their pincushions merit a separate study to themselves, for their evolution is traceable from considerable evidence. It can only be said here that common pins, used in sewing and related activities, were used for well over a century in England, the length and diameter of the pin being tailored to the size of the insect. By the second quarter of the nineteenth century the well-known difficulties attendant to common pins, which every youthful entomologist now very soon learns to his regret, led authors of entomological books to direct their readers to specific dealers where corrosion-resistant pins of various sorts could be obtained. Specially produced entomological pins were eventually stocked in nineteenth-century British shops catering to naturalists, and especially designed pins of standard length but of varying diameter were employed for entomological purposes on the Continent. As we know, Continental pins of this sort were eventually adopted by American entomologists, and are used today, although English entomologists still employ natively produced resistant pins of differing diameters and lengths.

The pincushion appears never to have become a widely used implement in America, but an American literature explaining the nature of collecting equipment did not develop in the earlier nineteenth century to compare with the plethora of transmarine publications, and surely we must imagine inves-

tigators such as John Abbot carrying their pincushions into the field, although there is little evidence to decide the fact. Later nineteenth-century publications do not mention the pincushion in England or America, and we must suppose that it became "old-fashioned" in the same way as the once widely used clap-net gave way to the Continental bag-net, which we use today. The pincushion was discarded for other ways of carrying pins in the field, that is, the boxes or tubes with which we are now familiar.

On the other hand, we do not know how long the pincushion actually survived in England. Entomologists, as well as other persons, do not always discard the ways learned in their youth, and R. L. E. Ford (1963) has demonstrated the surprisingly late survival of early collecting techniques by his discovery of a photograph showing the ancient clap-net in use *circa* 1900. In some ways, the historian of entomology is like the folklorist who often discovers survivals of an earlier age, and even today, it is interesting to search the catalogues of such traditional naturalists' suppliers as Watkins and Doncaster to discover "entomological survivals", or at least the obvious descendants of very old devices.

In 1966, during a residence in England, the author visited one of the oldest of English entomologists, Percy Cue (he died at the age of 94 in 1971). Mr. Cue could not remember any use of the pincushion in his youth (although he recalled many long-disappeared items of collecting equipment), and averred from his early conversations with entomologists that the pincushion had disappeared in England during the mid-Victorian era. This was not so on the Continent, where a very specialised form of the pincushion developed during the nineteenth century. The French entomologist of mid-century had his *pelote de chasse*, which like Swainson he suspended from the buttonhole of his coat. One of the standard Gallic guides for lepidopterists (Rothschild, 1880) noted that "on pique ordinairement les epingles sur une petite pelote faite de deux disques de carton recouverts d'etoffe et relies entre eux par un fort ruban qui en forme la tranche. . . . C'est sur ce ruban que se piquent les epingles, et l'on peut remplir le vide entre les deux cartons avec de la sciure de bois ou du son. Pour plus de commodite, on peut suspendre cette pelote a la boutonniere par un cordon, afin d'avoir toujours sous la main les epingles dont on peut avoir besoin".

A variant of the *pelote*, with its accompaniment of pins, is illustrated on the back cover of the Fall-Winter, 1969 issue of *The Michigan Entomologist* (Vol. 2, Nos. 3-4); the illustration is taken from Maurice Sand, *Le monde des papillons* (Paris, 1867; Wilkinson, 1969b). By this time the French entomologist had his *boite d'epingles*, or box for differing diameters of pins, but the revised pincushion survived on the Continent for a much longer period. One of the standard guides for French collectors toward the end of the century was Albert Granger's *Guide de l'amateur d'insectes* (see, for example, the edition of 1890), in which it was noted that "les Entomologistes prefer-

ent généralement la pelote; elle est ronde et composée de deux morceaux de carton recouverts de soie verte et reliés par un ruban sur lequel on pique les épingles; en excursion on la suspend à la boutonnière" (Granger, 1890). The various editions of this book had a considerable effect on practices in French amateur entomology, and the *pelote* appears in various French catalogues issued by naturalists' suppliers at the end of the century. As late as the 1920's the *pelote* was used by elder entomologists in France, as testified by the author's father, who although not an entomologist collected plants in several provinces. By then the *pelote* was an anachronism, and it was surely on the Continent (although its history in Germanic countries has not been traced here) that the pincushion ended its tradition of at least two hundred and thirty years as a desirable item of entomological collecting equipment.

References

- Albin, E. 1720. *A natural history of English insects*. London. British Library, Sloane Manuscripts.
- [Curtis, W.] 1771. *Instructions for collecting and preserving insects*. London.
- Ford, R. L. E. 1963. *Practical entomology*. London and New York.
- Granger, A. [1890]. *Guide de l'amateur d'insectes*. Paris.
- Harris, M. [1758]-66. *The Aurelian*. London.
- Ingpen, A. 1827. *Instructions for collecting, rearing, and preserving British insects*. London.
- . 1839. *Instructions for collecting, rearing, and preserving British and foreign insects*. London.
- Kirby, W., and W. Spence. 1826. *An introduction to entomology*, Vol. 4. London.
- Newman, E. 1841. *A familiar introduction to the history of insects*. London.
- Ray, J. 1710. *Historia insectorum*. London.
- [Rothschild, J.] 1880. *Guide de jeune naturaliste: les papillons de France*. Paris.
- Sand, M. 1867. *Le monde des papillons*. Paris.
- Swainson, W. 1840. *Taxidermy*. London.
- Wilkes, B. [1742?] *In order to oblige such persons as may be desirous to make a collection of moths and butterflies . . .* Broadsheet, London.
- . [1747-50]. *The English moths and butterflies*. London.
- Wilkinson, R. S. 1969a. The oldest extant specimens of North American Lepidoptera. *Mich. Entomol.*, 2: 46-47.
- . 1969b. Seven illustrations from Maurice Sand's *Le monde des papillons* (1867). *Mich. Entomol.*, 2: 83.

HYDROPHILUS PICEUS L. (COL.: HYDROPHILIDAE) IN MONMOUTH. — Whilst collecting beetles at Magor Marsh on 8th March, 1975 a male specimen of *Hydrophilus piceus* was netted in one of the ditches surrounding the marsh. Because of the scarcity of this insect in Wales I feel the fact should be recorded. According to Frank Balfour-Browne's book *Water Beetles and Other Things* there exists an old record of the insect being taken at Crwmllyn Bog area in Glamorgan in 1829 and, more recently, a specimen from a brackish ditch near Rumney, Monmouth, in 1949. — M. J. LEECH, Yew Tree Cottage, Bromsash, Ross-on-Wye, Herefordshire, HR9 7PN, 10.iii.1975.